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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,037	10/11/2005	Ulrike Licht	278600US0PCT	6780

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EXAMINER	
NILAND, PATRICK DENNIS	
ART UNIT	**PAPER NUMBER**
1796	

NOTIFICATION DATE	DELIVERY MODE
12/13/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/553,037	LICHT ET AL.	
	Examiner	Art Unit	
	Patrick D. Niland	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-9, and 21-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,9 and 21-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/28/07 has been entered.

The amendment of 9/28/07 has been entered. Claims 8-9 and 21-46 are pending.

2. Claims 8-9 and 21-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The instant claims 8, 21, 27, 29, and the claims which depend therefrom recite molecular weights regarding polymeric compounds without specifying the molecular weight type, e.g. weight average, number average, z average, viscosity average, etc. It is therefore unclear what type of polymeric molecular weight is intended. It is unclear what the units of the molecular weights which do not recite the molecular weight units are intended to be.

B. It is unclear if the molecular weights of the instant claims 21 and 29 are intended to further limit the molecular weights of the claims from which they depend or if the full scope, e.g. up to infinity, of these claims is intended.

C. The instantly claimed component c) of the claims which do not specify the identity of the claimed component c) recite "c) is at least one ionic or potentially ionic synthesis component". It is unclear what is required by "synthesis component". The ionic or potentially ionic surfactants are used in the synthesis and therefore fall within the scope of "synthesis component". The instantly claimed component c) does not specify any reactive groups.

However the claims recite "reacting the following components" including component c). It is therefore unclear what reaction component c) is required to undergo where it contains no reactive groups. It is therefore unclear what the scope of "synthesis component" is intended to be.

3. Claims 21 and 29 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

A. It is unclear if the molecular weights of the instant claims 21 and 29 are intended to further limit the molecular weights of the claims from which they depend or if the full scope, e.g. up to infinity, of these claims is intended. In the latter case, the claims broaden rather than further limit the claims from which they depend.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 27-29, 32-34, 37, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/064657 Licht et al. as translated by US Pat. Application Pub. 2004/0077777 A1 Licht et al. until the official translation is received.

Licht discloses a method of making an aqueous primary dispersion falling within the scope of the instant claims at the abstract; sections [0008]-[0043], particularly [0011] which encompasses the instantly claimed components a and b1, [0016] which relates to the relative amounts of polyols, polyamines, and polyisocyanates, [0017], [0022] which encompasses the instantly claimed molecular weight of component b1, [0023]-[0024] which encompasses the instantly claimed polyesterol of claim 33 when the diol is the ethylene glycol or oligomer thereof of section [0024], [0027] which encompasses the instantly claimed b1 when polyethylene oxide is the polyether used, [0029]-[0030] which also meets the instantly claimed component b1 and the amounts of ethylene oxide units of the very broad ranges of the instant claims when taken with the active hydrogen/NCO ratios, molecular weights of the disclosed polyisocyanates, and the molecular weights of the disclosed diols of the reference when these low molecular weight diols are the ethylene oxide oligomers of section [0024], [0031], [0032], [0036]-[0038] which falls within the scope of the particle sizes of the instant claim 34, [0043], page 6, claim 14 which falls within the scope of the instant claim 46 when coupled with claim 13, and the remainder of the document. It is not seen that the dispersing means of the reference use more than the very large amount of shear of the instant claim 28 nor would much shear be required where the ethylene oxide polyethers of the reference are used since the polymers are expected to be liquid at their lower molecular weights and therefore easily dispersed.

The use of the above discussed polyester glycols made with ethylene glycol or its oligomers or polyethylene oxides will necessarily meet the amounts of ethylene oxide units of the very broad ranges of the instant claims when taken with the active hydrogen/NCO ratios,

molecular weights of the disclosed polyisocyanates, and the molecular weights of the disclosed diols of the reference. See MPEP 2131.02 Genus-Species Situations

A SPECIES WILL ANTICIPATE A CLAIM TO A GENUS

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989) (Gosteli claimed a genus of 21 specific chemical species of bicyclic thia-aza compounds in Markush claims. The prior art reference applied against the claims disclosed two of the chemical species. The parties agreed that the prior art species would anticipate the claims unless applicant was entitled to his foreign priority date.).

A REFERENCE THAT CLEARLY NAMES THE CLAIMED SPECIES ANTICIPATES THE CLAIM NO MATTER HOW MANY OTHER SPECIES ARE NAMED

A genus does not always anticipate a claim to a species within the genus. However, when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named. Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990) (The claimed compound was named in a reference which also disclosed 45 other compounds. The Board held that the comprehensiveness of the listing did not negate the fact that the compound claimed was specifically taught. The Board compared the facts to the situation in which the compound was found in the Merck Index, saying that "the tenth edition of the Merck Index lists ten thousand compounds. In our view, each and every

one of those compounds is described' as that term is used in 35 U.S.C. § 102(a), in that publication."). Id. at 1718. See also In re Sivaramakrishnan, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982) (The claims were directed to polycarbonate containing cadmium laurate as an additive. **The court upheld the Board's finding that a reference specifically naming cadmium laurate as an additive amongst a list of many suitable salts in polycarbonate resin anticipated the claims. The applicant had argued that cadmium laurate was only disclosed as representative of the salts and was expected to have the same properties as the other salts listed while, as shown in the application, cadmium laurate had unexpected properties. The court held that it did not matter that the salt was not disclosed as being preferred, the reference still anticipated the claims and because the claim was anticipated, the unexpected properties were immaterial.).**

The reference teaches coating substrates at section [0060].

7. Claims 27-34, 37-38, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/064657 Licht et al. as translated by US Pat. Application Pub. 2004/0077777 A1 Licht et al. until the official translation is received.

Licht discloses a method of making an aqueous primary dispersion falling within the scope of the instant claims at the abstract; sections [0008]-[0043], particularly [0011] which encompasses the instantly claimed components a and b1, [0016] which relates to the relative amounts of polyols, polyamines, and polyisocyanates, [0017], [0022] which encompasses the instantly claimed molecular weight of component b1, [0023]-[0024] which encompasses the instantly claimed polyesterol of claim 33 when the diol is the ethylene glycol or oligomer thereof

of section [0024], [0027] which encompasses the instantly claimed b1 when polyethylene oxide is the polyether used, [0029]-[0030] which also meets the instantly claimed component b1 and the amounts of ethylene oxide units of the very broad ranges of the instant claims when taken with the active hydrogen/NCO ratios, molecular weights of the disclosed polyisocyanates, and the molecular weights of the disclosed diols of the reference when these low molecular weight diols are the ethylene oxide oligomers of section [0024], [0031], [0032], [0036]-[0038] which falls within the scope of the particle sizes of the instant claim 34, [0043], page 6, claim 14 which falls within the scope of the instant claim 46 when coupled with claim 13, and the remainder of the document. It is not seen that the dispersing means of the reference use more than the very large amount of shear of the instant claim 28 nor would much shear be required where the ethylene oxide polyethers of the reference are used since the polymers are expected to be liquid at their lower molecular weights and therefore easily dispersed.

The use of the above discussed polyester glycols made with ethylene glycol or its oligomers or polyethylene oxides will necessarily meet the amounts of ethylene oxide units of the very broad ranges of the instant claims when taken with the active hydrogen/NCO ratios, molecular weights of the disclosed polyisocyanates, and the molecular weights of the disclosed diols of the reference. See MPEP 2131.02 Genus-Species Situations

A SPECIES WILL ANTICIPATE A CLAIM TO A GENUS

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989) (Gosteli claimed a genus of 21

specific chemical species of bicyclic thia-aza compounds in Markush claims. The prior art reference applied against the claims disclosed two of the chemical species. The parties agreed that the prior art species would anticipate the claims unless applicant was entitled to his foreign priority date.).

A REFERENCE THAT CLEARLY NAMES THE CLAIMED SPECIES ANTICIPATES THE CLAIM NO MATTER HOW MANY OTHER SPECIES ARE NAMED

A genus does not always anticipate a claim to a species within the genus. However, when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named. Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990) (The claimed compound was named in a reference which also disclosed 45 other compounds. The Board held that the comprehensiveness of the listing did not negate the fact that the compound claimed was specifically taught. The Board compared the facts to the situation in which the compound was found in the Merck Index, saying that "the tenth edition of the Merck Index lists ten thousand compounds. In our view, each and every one of those compounds is described' as that term is used in 35 U.S.C. § 102(a), in that publication."). Id. at 1718. See also In re Sivaramakrishnan, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982) (The claims were directed to polycarbonate containing cadmium laurate as an additive. **The court upheld the Board's finding that a reference specifically naming cadmium laurate as an additive amongst a list of many suitable salts in polycarbonate resin anticipated the claims. The applicant had argued that cadmium laurate was only disclosed as representative of the salts and was expected**

to have the same properties as the other salts listed while, as shown in the application, cadmium laurate had unexpected properties. The court held that it did not matter that the salt was not disclosed as being preferred, the reference still anticipated the claims and because the claim was anticipated, the unexpected properties were immaterial.).

The reference teaches coating substrates at section [0060].

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the above discussed combinations of ingredients in the processes of the reference because they would have been expected to give dispersions having the properties disclosed by the reference.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the polyethers of the instant claims 30-31 in the above discussed method because they are encompassed by section [0027] "as a mixture" and Pluronics are well known, old, commercially available forms of the instant claim 31.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to coat the substrates of the instant claim 38 with the dispersion of the reference discussed above because the reference teaches the coating of substrates generally with these polyurethanes and polyurethanes are known for coating the instantly claimed substrates as taught at section [0006].

8. Claims 8-9 and 21-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/064657 Licht et al. as translated by US Pat. Application Pub. 2004/0077777 A1 Licht et

al. until the official translation is received in view of US Pat. No. 5959027 Jakubowski et al. and US Pat. No. 4046729 Scriven et al..

Licht discloses a method of making an aqueous primary dispersion falling within the scope of the instant claims at the abstract; sections [0008]-[0043], particularly [0011] which encompasses the instantly claimed components a and b1, [0016] which relates to the relative amounts of polyols, polyamines, and polyisocyanates, [0017], [0022] which encompasses the instantly claimed molecular weight of component b1, [0023]-[0024] which encompasses the instantly claimed polyesterol of claim 33 when the diol is the ethylene glycol or oligomer thereof of section [0024], [0027] which encompasses the instantly claimed b1 when polyethylene oxide is the polyether used, [0029]-[0030] which also meets the instantly claimed component b1 and the amounts of ethylene oxide units of the very broad ranges of the instant claims when taken with the active hydrogen/NCO ratios, molecular weights of the disclosed polyisocyanates, and the molecular weights of the disclosed diols of the reference when these low molecular weight diols are the ethylene oxide oligomers of section [0024], [0031], [0032], [0036]-[0038] which falls within the scope of the particle sizes of the instant claim 34, [0043], page 6, claim 14 which falls within the scope of the instant claim 46 when coupled with claim 13, and the remainder of the document. It is not seen that the dispersing means of the reference use more than the very large amount of shear of the instant claim 28 nor would much shear be required where the ethylene oxide polyethers of the reference are used since the polymers are expected to be liquid at their lower molecular weights and therefore easily dispersed. The reference teaches coating substrates at section [0060].

Licht does not disclose the use of the instantly claimed component c).

Jakubowski discloses making high solids aqueous primary polyurethane dispersions by reacting polyisocyanate, polyols including polyether and polyester polyols, and chain extenders which fall within the scope of the instantly claimed component b3 and which may include chemically incorporated ionic and nonionic stabilizing functionalities (column 5, lines 57-60) which fall within the scope of the instantly claimed component c. See the entire document, particularly the abstract; column 1, lines 54-67; column 2, lines 1-67, particularly 1-54; column 3, lines 1-67, particularly 36-67, which encompass the instantly claimed ethylene oxide containing moieties; column 4, lines 1-67, particularly 1-52; column 5, lines 1-67, particularly 1-4, 10-15, and 57-60, which discloses the use of chemically incorporated anionic and nonionic moieties to stably disperse the polyurethane of the patentee, and 61-67; column 6, lines 1-67, particularly 1-11 and 53-63, noting the particle sizes and polydispersities thereof of the examples; and the remainder of the document. It is not seen that "primary dispersion" does not include the primary dispersions of Jakubowski.

Jakubowski does not disclose the instantly claimed method of making their polyurethane dispersions.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the instantly claimed amounts of ethylene oxide moieties and ionic moieties to stabilize the polyurethane of Licht et al. and to reduce the amount of external emulsifier accordingly because it is well known to use the instantly claimed combinations of ionic groups and ethylene oxide moieties to stably disperse polyurethanes so as to reduce external emulsifier, which is well known to adversely affect film properties and adhesion, as taught by Jakubowski at column 5, lines 57-60 and the fact that the state of the art has been to use both ethylene oxide

moieties, in combination with other more hydrophobic moieties, including propylene oxide and other alkylene oxides to stably disperse polyurethanes in water as evidenced by the full disclosure of Scriven et al., particularly the abstract; column 7, lines 44-68; column 8, lines 1-68, particularly 34-67, more particularly 49-51 and 52-55 which encompasses terminating the polyethers with the instantly claimed CH2OH groups; column 9, lines 1-68, particularly 1-25, more particularly 20-25, which encompasses the instantly claimed polyesterols having the instantly claimed ethylene oxide moieties; column 11, lines 1-68, particularly 1-40 which discloses the instantly claimed component c and its purpose; column 13, lines 1-68, particularly 11-22 column 15, lines 53-68; column 16, lines 1-68; column 17, lines 1-68, particularly 31-53 of which the clear dispersions are understood by those of ordinary skill in the art to be very small particles, often of only one molecule, which are too small to give the Tyndall effect and which would have the instantly claimed particle sizes; and the remainder of the document and the ordinary skilled artisan, at the time of the instant invention was well aware of the effects of using both ionic and nonionic means to stably disperse polyurethanes in water because their affect on the Hydrophile/Lipophile Balance of the polyurethane and the HLB affect on the stability of the dispersed polyurethane is well known and the patentees encompass the instantly claimed amounts of ethylene oxide moieties and this commonly used means for stably dispersing polyurethanes would have been expected to stably disperse the polyurethane of Licht et al. without the need for external emulsifier while giving the benefits of Licht's method. There are no unexpected results shown, in a manner commensurate in scope with the cited prior art and the instant claims, stemming from the instantly claimed ethylene oxide amounts. The above requires the reacting of the components of the instant claim 8 by the instantly claimed method.

It is not seen that the dispersers of the references cited would use shear above that of the instant claims 9 and 28, particularly where enough hydrophilic portion is present in the polyurethane that it is self dispersing (See Scriven column 5, lines 15-25 and column 17, lines 7-11 and Jakubowski, column 4,lines 23-27 and column 8, lines 20-25) because self dispersing polyurethane reaction mixtures would clearly require little shear to disperse.

Coating substrates according to the instant claims 35-38 is disclosed at Jakubowski, column 7, lines 13-18.

High shear is not required where the polyurethanes have high contents of hydrophilic salt groups and ethylene oxide content since the hydrophilic molecules are readily compatible with water as understood by the ordinary skilled artisan, though most of the instant claims do not exclude high shear. It is noted that the instant claims and the prior art encompass polyurethanes which are self emulsifying.

It is not seen that the average particle sizes of the patentee do not correspond to the z average particle sizes of the instant claims 26 and 34, particularly where the larger amounts of salt and ethylene oxide units are present which make the polyurethane more compatible with water, i.e. the polyurethane is approaching solubility. Column 12, line 11 of Scriven falls within the scope of the instant claims 39-42.

9. Claims 8-9, 21, 24, 25, 27-29, 32-33, 35-40, and 45-46 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 3639315 Rodriguez.

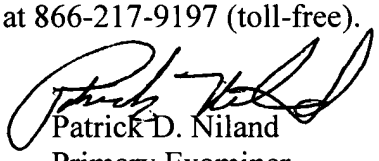
Rodriguez discloses the instantly claimed methods at column 1, lines 13-20 and 50-72; column 2, lines 1-72, particularly 28-61 which constitutes making the homogeneous phase of claims 45-46 and discloses the instantly claimed amounts of ethylene oxide units and ionic

groups and emulsifying the homogeneous phase in water; column 3, lines 1-75, particularly 1-46; column 4, lines 1-75, particularly 18-31 and 69-75; column 5, lines 1-72; column 6, lines 1-70, particularly 22-44.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick D. Niland
Primary Examiner
Art Unit 1714